

Quarterly Estimates of State Personal Income: A New Series

THIS report introduces a new body of regional economic data: quarterly estimates of total personal income, by States, adjusted for seasonal variation. The series is designed to measure short-term changes in economic activity and purchasing power on a geographic basis. In particular, the quarterly data should provide a finer measure for gauging the impact of the business cycle on the States and regions than has been possible up to now through the use of annual statistics alone.

The series presented here begin with the first quarter of 1965 and continue through the second quarter of 1966. Estimates for the third quarter of this year will be published in the January 1967 SURVEY, and those for the fourth quarter in the April SURVEY.¹

The April issue of the SURVEY will carry preliminary annual totals for the preceding year derived as the sum of the four quarterly estimates. These totals will be replaced in the August SURVEY by estimates based on more comprehensive and reliable annual data.

A historical quarterly series extending back to 1948 and showing some detail on industrial sources of income will be published in a special article during the coming year.

Personal income in mid-1966

For all States combined, total personal income rose from a seasonally adjusted annual rate of \$550 billion in the final quarter of 1965 to \$569

billion in the second quarter of 1966, a gain of 3½ percent.² Over the same period, all States but 1 experienced income increases, which ranged from 1 percent in 10 States to 8 percent in Washington; a dozen States showed gains of 5 to 7 percent. Only in Idaho was total income in the second quarter of this year below the 1965 fourth-quarter rate, and this decline reflected a reduction in farm income from the unusually high peak reached in 1965; nonfarm income in Idaho rose at the national rate.

Over a 6-month span, many State changes in income are the result of random, temporary influences, and regional patterns of change tend to be blurred. However, the effects of certain influences on rates of income change were evident in a number of States. Changes in farm income were the major development that caused clearly defined geographic variations in the income flow during the first two quarters of this year. Declines in agricultural income tended to limit the increase in personal income in the agricultural portions of the Great Lakes, the Plains, and the Rocky Mountain regions. As a result, personal income in these three regions showed the smallest relative gains in the Nation. Conversely, increases in farm income bolstered the income flow in the Southeast and Far West. These two regions and New England scored the top-ranking advances in personal income during the first half of 1966.

Other factors responsible for significant changes in the rate of income growth include a reduction in military personnel in a number of States, the pickup in aircraft production in Wash-

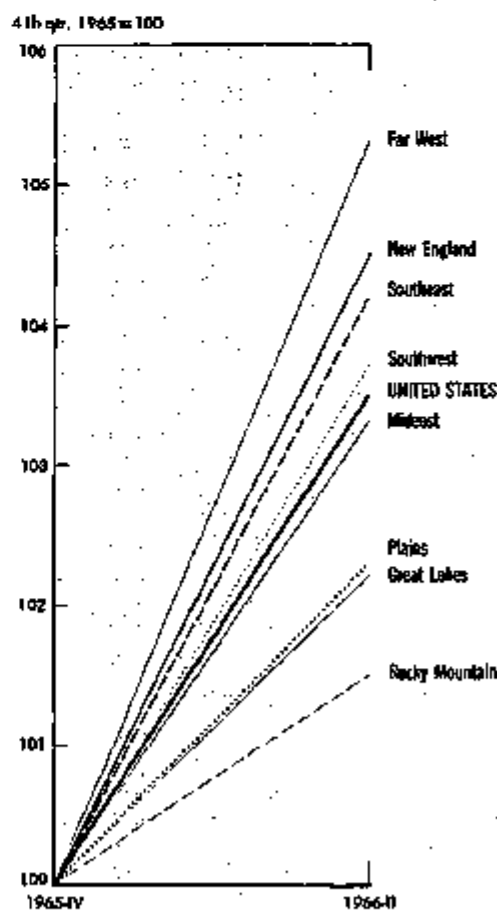
ington, and changes in automobile production in several Great Lakes States.

Regional changes in 1966

The fastest regional income rises from the last quarter of 1965 to the second of 1966 was in the Far West. The top-ranking income gain in this region, in Washington reflected mainly

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Change in Personal Income by Regions Fourth quarter 1965-second quarter 1966



Note.—Based on seasonally adjusted data.

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¹ The quarterly estimates of State personal income were prepared in connection with reimbursable work that OBE is doing for the Water Resources Council, and are not funded beyond the current fiscal year.

Note.—James Walsh, Marian Sachs, and Mildred Hynson assisted in the preparation of the data. These figures represent the extension to current periods of a longer and more detailed series being developed under the general supervision of Edwin J. Coleman, Chief, Economic Measurement Section, Regional Economics Division.

² The totals for all States combined are lower than national personal income because they exclude the income of military and civilian Federal employees temporarily stationed abroad.

the direct and indirect effects of expanded aircraft production. Especially important was the boost provided by an increase in the payrolls of construction firms working on aircraft production facilities; the other three States of the Far West—Oregon, Nevada, and California—scored gains somewhat better than the national

average. In Oregon and California, increases were general throughout the economy; in Nevada, the important tourist-oriented service industries provided the main impetus. In each State of the Far West, the 1966 income spurt followed a below-average gain during 1965.

The second largest regional expan-

sion so far this year has been in New England. Here, the principal factor was a 7-percent rise in personal income in Connecticut; except for a dip in the third quarter of 1965, this State has outpaced the national rate of expansion in each quarter since early 1965. Most other New England States were close to the national rate of increase.

The Southeast's comparatively small edge over the rest of the Nation in the rate of income gain in the first 6 months of this year reflected better-than-average farm marketings; non-farm income in the Southeast rose at the national rate. The comparative strength in farm marketings was especially evident in North Carolina—which registered a 7-percent gain in total income—as well as in Kentucky, Arkansas, and Mississippi. In part, North Carolina's experience reflects a recovery from the sizable decline in farm income in the preceding year. Lower farm income and declines in Federal payrolls were mainly responsible for below-average income gains in Florida and South Carolina.

The 1966 income change in the Southeast stands in contrast to the area's experience in the preceding four quarters, when income advanced more rapidly than in any other region.

Income gains in the Midwest and Southwest closely approximated those in the country as a whole, with only Maryland and Arizona showing significantly above-average gains and with Delaware and the District of Columbia falling appreciably short. In Delaware and the District of Columbia, the leveling off that occurred in the first half of this year followed a rapid rise during 1965.

The smallest income gains during the first half of 1966 were in the Great Lakes, Plains, and Rocky Mountain regions. In each of these areas, declines in farm income limited the rise in total income, particularly in Iowa, Missouri, Nebraska, Kansas, and Idaho. In addition, a decline in automobile production dampened the income increase in Michigan and Indiana.

Technical Note

The seasonally adjusted quarterly estimates of personal income presented in this report are the product of two

Table 1.—Total Personal Income, by States and Regions
(Millions of Dollars)

| State and Region | 1963 | 1964 | 1965 | 1965 | | | | 1966 | |
|---------------------------|---------|---------|---------|-------------------------------------|---------|---------|---------|---------|---------|
| | | | | I | II | III | IV | I | II |
| | | | | Seasonally adjusted at annual rates | | | | | |
| United States..... | 468,063 | 486,486 | 522,847 | 515,194 | 524,789 | 538,967 | 549,696 | 568,259 | 566,819 |
| New England..... | 29,461 | 31,269 | 33,283 | 32,349 | 33,903 | 34,614 | 34,740 | 35,226 | 35,898 |
| Maine..... | 1,932 | 2,068 | 2,245 | 2,175 | 2,330 | 2,281 | 2,217 | 2,262 | 2,350 |
| New Hampshire..... | 1,616 | 1,690 | 1,734 | 1,654 | 1,686 | 1,741 | 1,774 | 1,762 | 1,823 |
| Vermont..... | 789 | 850 | 884 | 865 | 874 | 898 | 885 | 898 | 921 |
| Massachusetts..... | 14,547 | 15,383 | 16,849 | 15,822 | 16,000 | 16,766 | 16,728 | 17,258 | 17,801 |
| Rhode Island..... | 2,190 | 2,344 | 2,511 | 2,410 | 2,432 | 2,590 | 2,577 | 2,615 | 2,681 |
| Connecticut..... | 8,466 | 9,004 | 9,626 | 9,384 | 9,631 | 9,928 | 9,908 | 10,390 | 10,653 |
| Midwest..... | 158,023 | 158,287 | 158,400 | 158,411 | 158,962 | 159,446 | 159,636 | 159,885 | 159,147 |
| New York..... | 62,697 | 65,046 | 69,350 | 67,877 | 69,481 | 70,284 | 70,776 | 72,048 | 72,824 |
| New Jersey..... | 19,480 | 20,801 | 21,960 | 21,397 | 21,604 | 22,353 | 22,548 | 23,062 | 23,200 |
| Pennsylvania..... | 27,847 | 28,770 | 30,616 | 29,847 | 31,240 | 32,425 | 32,731 | 33,367 | 33,614 |
| Delaware..... | 1,446 | 1,543 | 1,709 | 1,602 | 1,687 | 1,782 | 1,782 | 1,788 | 1,788 |
| Maryland..... | 8,964 | 9,734 | 10,604 | 10,208 | 10,961 | 10,936 | 10,980 | 11,281 | 11,449 |
| District of Columbia..... | 2,669 | 2,904 | 3,074 | 2,889 | 2,918 | 3,036 | 3,030 | 3,060 | 3,107 |
| Great Lakes..... | 87,626 | 88,442 | 89,186 | 88,383 | 88,679 | 88,782 | 88,824 | 88,821 | 88,821 |
| Michigan..... | 20,787 | 21,626 | 22,021 | 21,044 | 21,788 | 22,062 | 22,210 | 22,094 | 22,090 |
| Ohio..... | 25,144 | 26,786 | 28,972 | 28,168 | 28,826 | 29,112 | 29,014 | 29,355 | 29,719 |
| Indiana..... | 11,813 | 12,556 | 13,924 | 13,474 | 13,886 | 14,103 | 14,103 | 14,460 | 14,827 |
| Illinois..... | 30,328 | 32,128 | 34,903 | 34,380 | 35,587 | 36,940 | 36,278 | 36,670 | 37,028 |
| Wisconsin..... | 9,564 | 10,368 | 11,279 | 10,695 | 11,129 | 11,460 | 11,590 | 11,709 | 12,051 |
| Plains..... | 35,374 | 37,885 | 41,609 | 39,556 | 41,312 | 43,281 | 43,899 | 43,776 | 44,884 |
| Minnesota..... | 8,318 | 8,610 | 9,496 | 9,204 | 9,421 | 9,642 | 9,708 | 9,854 | 9,962 |
| Iowa..... | 6,330 | 6,609 | 7,381 | 7,062 | 7,332 | 7,534 | 7,718 | 7,896 | 8,021 |
| Missouri..... | 10,402 | 10,888 | 11,961 | 11,584 | 11,774 | 12,121 | 12,416 | 12,630 | 12,734 |
| North Dakota..... | 1,292 | 1,394 | 1,486 | 1,368 | 1,405 | 1,435 | 1,478 | 1,488 | 1,503 |
| South Dakota..... | 1,349 | 1,314 | 1,328 | 1,193 | 1,311 | 1,374 | 1,349 | 1,348 | 1,357 |
| Nebraska..... | 3,342 | 3,506 | 3,836 | 3,687 | 3,816 | 3,888 | 3,860 | 3,944 | 4,009 |
| Kansas..... | 5,319 | 5,663 | 6,382 | 6,201 | 6,593 | 6,969 | 6,741 | 6,738 | 6,943 |
| Southeast..... | 78,282 | 81,298 | 85,237 | 84,973 | 86,661 | 88,787 | 91,442 | 94,967 | 95,294 |
| Virginia..... | 8,064 | 8,896 | 10,091 | 10,340 | 10,444 | 10,896 | 10,074 | 11,203 | 11,406 |
| West Virginia..... | 3,284 | 3,447 | 3,679 | 3,573 | 3,638 | 3,790 | 3,770 | 3,859 | 3,859 |
| Kentucky..... | 5,731 | 5,968 | 6,499 | 6,290 | 6,454 | 6,662 | 6,608 | 6,911 | 7,006 |
| Tennessee..... | 6,044 | 6,359 | 7,189 | 7,000 | 7,394 | 7,650 | 7,653 | 8,008 | 8,206 |
| North Carolina..... | 8,682 | 9,021 | 10,070 | 9,762 | 9,998 | 10,208 | 10,371 | 10,968 | 11,101 |
| South Carolina..... | 5,948 | 6,287 | 6,708 | 6,488 | 6,682 | 6,820 | 6,894 | 7,045 | 7,146 |
| Georgia..... | 7,906 | 8,086 | 8,478 | 8,126 | 8,306 | 8,500 | 8,581 | 8,872 | 9,041 |
| Florida..... | 11,846 | 12,820 | 14,041 | 13,468 | 13,788 | 14,806 | 14,824 | 14,770 | 15,015 |
| Alabama..... | 5,500 | 5,958 | 6,690 | 6,487 | 6,678 | 6,785 | 6,872 | 7,041 | 7,127 |
| Mississippi..... | 3,291 | 3,422 | 3,712 | 3,526 | 3,687 | 3,806 | 3,854 | 4,042 | 4,078 |
| Louisiana..... | 4,294 | 4,783 | 5,389 | 5,065 | 5,187 | 5,408 | 5,472 | 5,845 | 5,896 |
| Arkansas..... | 3,193 | 3,374 | 3,581 | 3,424 | 3,521 | 3,682 | 3,716 | 3,884 | 3,919 |
| Southwest..... | 31,567 | 33,789 | 36,321 | 35,061 | 36,900 | 38,886 | 37,609 | 38,851 | 39,786 |
| Oklahoma..... | 4,880 | 5,196 | 5,503 | 5,417 | 5,582 | 5,664 | 5,798 | 5,844 | 5,955 |
| Texas..... | 21,486 | 22,990 | 24,741 | 23,914 | 24,452 | 25,179 | 24,497 | 24,096 | 24,423 |
| New Mexico..... | 2,632 | 2,707 | 2,824 | 2,730 | 2,810 | 2,885 | 2,865 | 2,931 | 2,993 |
| Arizona..... | 3,569 | 3,896 | 4,254 | 4,019 | 4,206 | 4,359 | 4,257 | 4,410 | 4,561 |
| Rocky Mountains..... | 18,718 | 19,083 | 19,841 | 18,496 | 19,439 | 19,947 | 19,344 | 19,348 | 19,487 |
| Montana..... | 1,399 | 1,585 | 1,714 | 1,641 | 1,674 | 1,748 | 1,799 | 1,828 | 1,816 |
| Idaho..... | 1,411 | 1,494 | 1,600 | 1,534 | 1,608 | 1,650 | 1,744 | 1,712 | 1,841 |
| Wyoming..... | 811 | 821 | 844 | 841 | 841 | 841 | 841 | 841 | 841 |
| Colorado..... | 5,730 | 5,947 | 6,282 | 6,074 | 6,185 | 6,404 | 6,428 | 6,456 | 6,602 |
| Utah..... | 2,103 | 2,216 | 2,341 | 2,206 | 2,314 | 2,401 | 2,388 | 2,470 | 2,596 |
| Far West..... | 68,228 | 70,722 | 74,358 | 73,491 | 74,960 | 76,338 | 77,668 | 80,344 | 81,886 |
| Washington..... | 7,764 | 8,043 | 8,641 | 8,387 | 8,483 | 8,798 | 8,824 | 8,802 | 8,896 |
| Oregon..... | 4,378 | 4,694 | 5,050 | 4,844 | 4,988 | 5,087 | 5,022 | 5,044 | 5,114 |
| Nevada..... | 1,268 | 1,361 | 1,497 | 1,431 | 1,493 | 1,441 | 1,444 | 1,488 | 1,522 |
| California..... | 52,415 | 54,604 | 58,068 | 56,879 | 57,415 | 59,044 | 61,778 | 63,794 | 64,878 |
| Alaska..... | 704 | 789 | 861 | 824 | 864 | 847 | 874 | 879 | 883 |
| Hawaii..... | 1,776 | 1,913 | 2,030 | 1,965 | 1,968 | 2,065 | 2,108 | 2,168 | 2,196 |

Notes.—Quarterly totals for the State personal income series will not agree with the personal income measure carried in the national income and product accounts since the latter includes income dispersed to Government personnel stationed abroad.

Source: U.S. Department of Commerce, Office of Business Economics.

separate methods. The first method involves the preparation of estimates for the quarters of the preceding calendar year—in this instance 1965. These are derived by allocating the annual totals of the various income components in each State to the quarters of the year by means of seasonally adjusted allocating series.

The main data source used in allocating annual totals to the quarters of the preceding year is the wage and salary information obtained from State unemployment insurance programs. For each State, quarterly wages and salaries in the various industry divisions and in the major two-digit industries are first seasonally adjusted and then used to allocate the appropriate annual wage and salary totals among quarters. Components measured in this way account for an average of 60 percent of total income.

Data somewhat less well suited to quarterly income measurement are used to allocate the annual totals of other items of income that account for another 15 percent of the total. In this category are included the following components: unemployment insurance benefits, railroad payrolls, military payrolls, proprietors' income—both farm and nonfarm—supplementary labor income, and personal contributions for social insurance. For the first three components, data directly measuring the quarterly distribution of the item in each State are available. After seasonal adjustment, these data are used as allocators. Seasonally adjusted cash receipts from farm marketings are used to allocate annual State estimates of net farm income, while the seasonally adjusted quarterly wage and salary series already described are used to allocate nonfarm proprietors' income, supplementary labor income, and personal contributions.

The remaining components—property income, State and local government wages, and most transfer payments—which together account for 25 percent of total income—are allocated to the quarters in accordance with the national pattern for each component.

The second method concerns the preparation of income estimates for the quarters of the current year—in this instance the first two quarters of 1966. These are obtained by using relevant

indicators to extend the estimates for the fourth quarter of the preceding year into the current year. These indicators are generally the same as the series used in allocating the annual totals with a major exception. Wages and salaries are currently estimated from Bureau of Labor Statistics' State data on State employment; earnings information is also used in those industries for which

it is available.

It should be noted that there is no unadjusted counterpart to the seasonally adjusted series; hence, there are no overall indexes of seasonal adjustment.

The lack of an unadjusted series is due to the fact that certain of the national series used to allocate annual totals to the quarters are available on a seasonally adjusted basis only.

Table 2.—Indexes of Quarterly Changes in Personal Income, by States and Regions Seasonally Adjusted

| State and Region | First quarter 1965 equals 100 | | | | | | Fourth quarter 1965 equals 100 | | | |
|---------------------------|-------------------------------|-----|-----|-----|------|-----|--------------------------------|------|-----|--|
| | 1965 | | | | 1966 | | 1965 | 1966 | | |
| | I | II | III | IV | I | II | IV | I | II | |
| United States..... | 104 | 102 | 105 | 107 | 103 | 110 | 100 | 102 | 103 | |
| New England..... | 104 | 102 | 104 | 106 | 103 | 111 | 100 | 103 | 105 | |
| Maine..... | 100 | 103 | 104 | 107 | 105 | 108 | 100 | 99 | 101 | |
| New Hampshire..... | 100 | 102 | 105 | 107 | 106 | 110 | 100 | 100 | 102 | |
| Vermont..... | 100 | 103 | 105 | 111 | 113 | 115 | 100 | 101 | 104 | |
| Massachusetts..... | 100 | 102 | 104 | 106 | 106 | 110 | 100 | 100 | 104 | |
| Rhode Island..... | 100 | 100 | 100 | 100 | 107 | 109 | 100 | 101 | 103 | |
| Connecticut..... | 100 | 103 | 101 | 106 | 111 | 114 | 100 | 104 | 107 | |
| Middlewest..... | 100 | 101 | 105 | 108 | 108 | 109 | 100 | 102 | 104 | |
| New York..... | 100 | 101 | 104 | 105 | 107 | 109 | 100 | 102 | 104 | |
| New Jersey..... | 100 | 101 | 105 | 104 | 109 | 109 | 100 | 102 | 103 | |
| Pennsylvania..... | 100 | 100 | 105 | 104 | 104 | 109 | 100 | 101 | 103 | |
| Delaware..... | 100 | 102 | 104 | 103 | 109 | 109 | 100 | 100 | 101 | |
| Maryland..... | 100 | 101 | 105 | 104 | 109 | 111 | 100 | 103 | 106 | |
| District of Columbia..... | 100 | 101 | 105 | 104 | 104 | 110 | 100 | 99 | 103 | |
| Great Lakes..... | 100 | 102 | 104 | 107 | 109 | 110 | 100 | 101 | 103 | |
| Michigan..... | 100 | 103 | 104 | 109 | 109 | 111 | 100 | 99 | 101 | |
| Ohio..... | 100 | 101 | 104 | 107 | 109 | 109 | 100 | 102 | 102 | |
| Indiana..... | 100 | 102 | 104 | 107 | 109 | 111 | 100 | 102 | 104 | |
| Illinois..... | 100 | 102 | 103 | 107 | 109 | 109 | 100 | 101 | 102 | |
| Wisconsin..... | 100 | 102 | 105 | 107 | 109 | 111 | 100 | 101 | 103 | |
| Plains..... | 100 | 103 | 106 | 109 | 109 | 111 | 100 | 100 | 102 | |
| Minnesota..... | 100 | 102 | 105 | 106 | 107 | 108 | 100 | 102 | 103 | |
| Iowa..... | 100 | 105 | 109 | 112 | 109 | 113 | 100 | 99 | 101 | |
| Missouri..... | 100 | 102 | 105 | 106 | 109 | 110 | 100 | 100 | 100 | |
| North Dakota..... | 100 | 107 | 112 | 116 | 119 | 122 | 100 | 103 | 105 | |
| South Dakota..... | 100 | 104 | 109 | 106 | 108 | 107 | 100 | 102 | 101 | |
| Nebraska..... | 100 | 104 | 109 | 109 | 109 | 109 | 100 | 99 | 101 | |
| Kansas..... | 100 | 103 | 106 | 108 | 108 | 111 | 100 | 100 | 103 | |
| Southeast..... | 100 | 102 | 106 | 108 | 111 | 112 | 100 | 101 | 104 | |
| Virginia..... | 100 | 104 | 105 | 107 | 108 | 110 | 100 | 101 | 103 | |
| West Virginia..... | 100 | 102 | 104 | 106 | 107 | 108 | 100 | 101 | 102 | |
| Kentucky..... | 100 | 103 | 105 | 105 | 109 | 111 | 100 | 100 | 100 | |
| Tennessee..... | 100 | 101 | 105 | 107 | 111 | 113 | 100 | 104 | 105 | |
| North Carolina..... | 100 | 103 | 105 | 106 | 112 | 114 | 100 | 105 | 107 | |
| South Carolina..... | 100 | 103 | 106 | 110 | 112 | 114 | 100 | 102 | 103 | |
| Georgia..... | 100 | 102 | 105 | 108 | 110 | 112 | 100 | 102 | 104 | |
| Florida..... | 100 | 102 | 106 | 109 | 110 | 115 | 100 | 101 | 103 | |
| Alabama..... | 100 | 102 | 105 | 107 | 110 | 111 | 100 | 103 | 104 | |
| Mississippi..... | 100 | 103 | 108 | 110 | 115 | 116 | 100 | 104 | 105 | |
| Louisiana..... | 100 | 102 | 107 | 109 | 112 | 113 | 100 | 104 | 104 | |
| Arkansas..... | 100 | 103 | 107 | 109 | 113 | 114 | 100 | 104 | 105 | |
| Southwest..... | 100 | 102 | 105 | 107 | 109 | 111 | 100 | 103 | 104 | |
| Oklahoma..... | 100 | 103 | 105 | 107 | 110 | 110 | 100 | 103 | 103 | |
| Texas..... | 100 | 103 | 105 | 107 | 109 | 110 | 100 | 102 | 104 | |
| New Mexico..... | 100 | 104 | 107 | 108 | 107 | 111 | 100 | 103 | 104 | |
| Arizona..... | 100 | 102 | 104 | 106 | 111 | 112 | 100 | 105 | 106 | |
| Rocky Mountain..... | 100 | 101 | 104 | 107 | 108 | 109 | 100 | 100 | 101 | |
| Montana..... | 100 | 102 | 106 | 110 | 111 | 112 | 100 | 101 | 101 | |
| Idaho..... | 100 | 98 | 101 | 107 | 105 | 108 | 100 | 98 | 97 | |
| Wyoming..... | 100 | 101 | 100 | 101 | 106 | 105 | 100 | 101 | 105 | |
| Colorado..... | 100 | 102 | 109 | 109 | 108 | 107 | 100 | 99 | 101 | |
| Utah..... | 100 | 100 | 103 | 104 | 107 | 109 | 100 | 103 | 104 | |
| Far West..... | 100 | 101 | 103 | 106 | 109 | 111 | 100 | 102 | 105 | |
| Washington..... | 100 | 101 | 105 | 106 | 111 | 114 | 100 | 104 | 106 | |
| Oregon..... | 100 | 100 | 102 | 105 | 109 | 111 | 100 | 104 | 105 | |
| Nevada..... | 100 | 100 | 101 | 104 | 107 | 109 | 100 | 104 | 105 | |
| California..... | 100 | 102 | 103 | 106 | 109 | 111 | 100 | 105 | 106 | |
| Alaska..... | 100 | 104 | 103 | 106 | 109 | 109 | 100 | 100 | 102 | |
| Hawaii..... | 100 | 102 | 106 | 108 | 111 | 109 | 100 | 103 | 104 | |

Source: U.S. Department of Commerce, Office of Business Economics.